

REMARKS

Applicants respectfully request reconsideration of this application in view of the following remarks.

I. Status of the Claims

Claims 1-22 are pending in this application. No claims presently are being amended, added or canceled.

II. Claims 1-3, 5-6, 10, 13, 18-19 and 21-22 Are Patentable over the Cited Art

Claims 1-3, 5-6, 10, 13, 18-19 and 21-22 were rejected under 35 U.S.C. § 103(a) for allegedly being obvious over U.S. published application No. 2030179916 ("Magnuson") in view of British patent No. GB 2310006 ("Elverd"). Applicants traverse the rejection.

Magnuson disclosed a method for picking animal cell colonies by contacting a picking pin (Figures 3-4) to the base of a sample container and then either (a) aspirating or (b) scraping then aspirating the animal cell colony into the picking pin (paragraphs 125 & 127). This contact method of picking, however, causes damage to both the picking pin and the animal cell colony. Contact picking also can produce detritus that contaminates a picked animal cell colony.

Magnuson and similar art relied on the contact picking method because it directly automated manual picking methods (paragraph 13), which used a scalpel blade or similar edge to scrape a cell colony from a sample container. The present inventors, however, discovered that an animal cell colony may be removed by aspiration alone, and that contact between the picking pin and the sample container is unnecessary.

Elverd disclosed a mechanical head comprising a plurality of pins for transporting biological samples from one container to another, but Elverd is silent on whether the pins contact the sample container. Moreover, Elverd is solely concerned with picking bacterial cell colonies (page 1, paragraph 2). The picking of animal cell colonies has different requirements than the picking of bacterial cell colonies. Animal cell colonies are significantly fewer in number and significantly greater in size than bacterial cell colonies. Thus, the

simple stabbing pin mechanism used for picking bacterial cell colonies is not suitable for picking animal cell colonies. Indeed, the differences between these tasks are such that a person skilled in the art of picking animal cell colonies would not ordinarily consult documents in the field of bacterial cell picking, and vice versa.

Thus, the present invention's non-contact picking method is not obvious from the combination of Magnuson and Elverd. Magnuson teaches that it is necessary to contact the picking pin to the sample container, and therefore teaches away from the claimed invention. Moreover, Magnuson does not teach that there are problems associated with contact picking, so it provides no motivation for adapting Magnuson's teachings to non-contact picking. Elverd also does not disclose a non-contact picking method. Even if Elverd did teach such a method, one skilled in the art would not have been motivated to combine Magnuson and Elverd because the two documents relate to performing significantly different tasks.

Because Magnuson and Elverd do not teach or suggest the claimed invention, and because there was no motivation to combine these two references, Applicants respectfully request withdrawal of the obviousness rejection.

III. Claims 4 and 11-12 Are Patentable over the Cited Art

Claims 4 and 11-12 were rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Magnuson in view of Elverd as applied to claims 1 and 10, and further in view of U.S. patent No. 4,210,724 ("Sogi"). Applicants traverse the rejection.

Sogi does not compensate for the deficiencies of Magnuson and Elverd, which are discussed above. Sogi is offered only for teaching that the distal ends of picking pins may be oscillated to create agitation. It is not alleged to teach or suggest that that contact between the picking pins and the sample container is unnecessary for picking animal cell colonies. Accordingly, Applicants respectfully request withdrawal of the obviousness rejection.

IV. Claims 4, 7-9, 14-17 and 20 Are Patentable over the Cited Art

Claims 4, 7-9, 14-17 and 20 were rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Magnuson in view of Elverd as applied to claims 1 and 10, and further in view of U.S. patent No. 6,064,754 ("Parekh"). Applicants traverse the rejection.

Parekh does not compensate for the deficiencies of Magnuson and Elverd, which are discussed above. Parekh is offered only for teaching limitations of the dependent claims, specifically (a) that the distal ends of picking pins may be oscillated to create agitation, (b) that animal cell colonies may express a biological molecule of interest, and (c) that colonies may be suspended in a medium. It is not alleged to teach or suggest that that contact between picking pins and the sample container is unnecessary for picking animal cell colonies. Accordingly, Applicants respectfully request withdrawal of the obviousness rejection.

V. Claims 10 and 21 Are Patentable over the Cited Art

Claims 10 and 21 were rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Uber *et al.*, *Biotechniques*, 11(5): 642-646 (1991) (“Uber”) in view of U.S. published application No. 20010019845 (“Bienert”). Applicants traverse the rejection.

Uber is alleged to disclose all the elements of claim 10 except for a plurality of hollow pins connected to the picking head. The rejection relies on Bienert for supplying that missing element. However, Uber does not disclose the integration of an imaging system and picking robot. Rather, it explicitly states, “We have not attempted to physically integrate the two units” (Page 642, column 3). Thus, Uber discloses an imager, used to identify the coordinates of bacterial or yeast cell colonies (page 643, left hand column, paragraph 2 and Figure 2), and a *separate* picking robot used to pick colonies based on coordinates generated by the imaging system (page 644, right hand column, paragraph 2 and Figure 4). The claimed references therefore do not teach or suggest the subject matter of claim 10.

Claim 21 is not obvious over Uber and Bienert for the same reasons as claim 10. Additionally, neither Uber nor Bienert teaches a method for picking animal cell colonies, let alone a non-contact method of picking such colonies.

Because Uber and Bienert fail to teach or suggest every limitation of the claimed invention, Applicants respectfully request withdrawal of the obviousness rejection.

VI. Concluding Remarks

Applicants believe that this application is in condition for allowance, and request favorable reconsideration of it. If the examiner has any questions or believes that an

interview would help to advance prosecution of the application, he may contact the undersigned attorney by telephone.

The Commissioner is hereby authorized to charge any additional fees that may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed, as by a check or credit card payment being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By Michele M. Simkin

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5538
Facsimile: (202) 672-5399

Michele M. Simkin
Attorney for Applicant
Registration No. 34,717